

IN THE SPECIFICATION

Please replace the title of the specification with:

“SEMICONDUCTOR DEVICE HAVING AN
ACTIVE REGION OF ALTERNATING LAYERS”

IN THE CLAIMS

Please amend the claims in accordance with the following claims in clean form. Applicants include herewith an Attachment for Claim Amendments showing a marked up version of each amended claim.

- A1
1. (Amended) A semiconductor device made by providing on a substrate an active region that functions as a portion of an active element, wherein the active region is configured by alternately layering:
- first semiconductor layers provided in plurality which functions as a carrier transit region, and
- second semiconductor layers, which is composed of δ doped layers provided in plurality, which includes a higher concentration of impurities for carriers than the first semiconductor layer, and which has a thinner film thickness than the first semiconductor layer;
- wherein the first semiconductor layers and the second semiconductor layers are made of the same material;
- wherein each of the first semiconductor layers has the same thickness; and

wherein the concentration of impurities for carriers included in the second semiconductor layers is substantially constant.

A2 ✓
3. (Amended) The semiconductor device according to claim 1,
wherein the concentration of impurities for carriers in the first semiconductor layer is below 1×10^{17} atoms \cdot cm⁻³, and

wherein the concentration of impurities for carriers in the second semiconductor layer is at least 10^{17} atoms \cdot cm⁻³.

B
4. (Amended) The semiconductor device according to claim 1, wherein the substrate and the active region are made of one material selected from SiC, GaN, and GaAs.

5. (Amended) The semiconductor device according to claim 1, wherein the first and second semiconductor layers in the active region are made of the same material.

Sub B ✓
6. (Amended) The semiconductor device according to claim 1,
wherein the second semiconductor layer is a SiC layer, and
wherein the thickness of the second semiconductor layer is at least one monolayer and below 20 nm.

A2 Cont Sub B 7. (Amended) The semiconductor device according to claim 1,
wherein the first semiconductor layer is a SiC layer, and
wherein the thickness of the first semiconductor layer is at least about 10 nm
and at most about 100 nm.

8. (Amended) The semiconductor device according to claim 1,
wherein the substrate is a semiconductor layer that includes a high
concentration of impurities,
wherein the uppermost portion of the active region is made of the first
semiconductor layer, and
wherein the semiconductor device further comprises a Schottky electrode
providing a Schottky contact with a portion of the upper surface of the first
semiconductor layer at the uppermost portion of the active region, and
an ohmic electrode providing an ohmic contact with a portion of the substrate.

9. (Amended) The semiconductor device according to claim 1, further
comprising:
a Schottky electrode providing a Schottky contact with a first lateral face of
the first semiconductor layer and of the second semiconductor layer of the active
region, and

A2
cont
Sub B7

an electrode that is connected to a second lateral face of the first semiconductor layer and of the second semiconductor layer of the active region, the second lateral face being arranged at a certain spacing from the first lateral face.

A3

11. (Amended) The semiconductor device according to claim 1, wherein the uppermost portion of the active region is made of the first semiconductor layer, and

wherein the semiconductor device further comprises:

a Schottky gate electrode, which is in Schottky contact with a portion of the upper surface of the first semiconductor layer at the uppermost portion of the active region, and

source and drain electrodes, which are provided on the active region and sandwich the Schottky gate electrode, and which are connected to the active region.

Please cancel Claim 2 without prejudice or disclaimer of the subject matter contained therein.